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**LISTING OF CLAIMS**

This listing of claims will replace all prior versions and listings of claims in the Application.

**1 -17. Cancelled**

18. **(Previously Presented)** A method for remote emissions sensing with NO<sub>x</sub> detection capability comprising the steps of:
- taking an ambient reading of ambient NO<sub>x</sub> concentration present prior to a vehicle passing by a system for remote emissions sensing;
  - taking an exhaust plume reading of an exhaust plume of the vehicle as the vehicle passes by the system for remote emissions sensing;
  - subtracting a baseline intensity from the exhaust plume reading to compensate for changes in radiation intensity, wherein the baseline intensity is interpolated using a substantially linear region over an absorption dip; and
  - subtracting the ambient reading from the exhaust plume reading to provide a concentration reading for the NO<sub>x</sub> present in the vehicle emissions.
19. **(Previously Presented)** The method of claim 18 further comprising the steps of taking a blocked beam reading prior to taking an exhaust plume reading and when the vehicle is in a beam path of a source beam of the system.
20. **(Previously Presented)** The method of claim 19, wherein the ambient reading is taken at predetermined intervals and wherein a most recent ambient reading is stored and used in connection with the blocked beam and exhaust plume readings for each vehicle.
21. **(Previously Presented)** The method of claim 19, wherein the blocked beam reading measures baseline current or noise in the system and wherein the blocked beam reading is taken after the ambient reading but before the exhaust plume reading.